



STATE OF MICHIGAN
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
GEOLOGICAL LAND MANAGEMENT DIVISION
PO BOX 30256
LANSING MI 48909-7756

**PERMIT TO ☒ DRILL ☐ DEEPEN ☐ CONVERT
AND OPERATE A MINERAL WELL**

GRANTED UNDER THE PROVISIONS of Part 625, Mineral Wells, of the Natural Resources and Environmental Protection Act (NREPA), 1994 Act 451 as amended. Violation of and/or non-compliance with the provisions of this act or its rules, instructions or orders of the supervisor, or these permit conditions may result in penalties. This permit includes as requirements all the operations and methods proposed by the applicant in the application to drill, unless rejected or altered by the DEQ. This permit is also subject to the general and specific conditions identified on this page and/or attached to it. Initiation of any work under this permit confirms the permittee's acceptance and agreement to comply with its terms and conditions.

Permit number M 489	Issue date 5/29/2003	Expiration date 11/29/2003
Well name and number Brine Production 1B		
Formation at total depth Pre-Cambrian	Completion formation Lockport, Eau Clair, Mt Simon	
Permitted total depth (measured) 4450'	Permitted total depth (TVD) 4450'	
Type of Permit Brine Production		
Issued to Sunoco Partners Marketing & Terminals, L.P. 1801 Market Street 10 Penn Center Philadelphia, PA 19103		

Location and footages NW 1/4 SE 1/4 NE 1/4, Section 12, T3S, R9E, Romulus Twp., Wayne County
1530 feet from North Section Line, 964 feet from East Section Line

CASING AND SEALING REQUIREMENTS

Hole dia.	Hole depth	Casing O.D.	Wt./ft.	Grade	Condition	Csg Depth	Sacks cmt	Cement top	Mud wt.
24"	140'	20"	94#	K-55	New	140'	227	Surface	8.4
18 1/2"	400'	16"	75#	K-55	New	400'	318	Surface	8.4
14 3/4"	1435'	11 3/4"	47#	K-55	New	1435'	685	Surface	8.4
10 5/8"	3900'	8 5/8"	36#	L-80	New	3900'	832	Surface	10.2
7 5/8"	4450'	Open	Hole						10.2

SPECIFIC PERMIT CONDITIONS

1. Prior to commencing to drill the well, permittee shall obtain approval of a plan to test the Lockport Formation for brine production between the approx. depths of 2120 and 2140 feet. The plan shall specify the methods, materials, and procedures used to test the Lockport Formation, shall identify criteria for determining whether to continue the test at various key points, and shall establish the criteria for determining if the Lockport Formation is suitable for commercial brine production.
2. This permit for brine production does not convey or imply permission to expand existing storage cavities or to create new storage cavities at the storage terminal located at 7155 Inkster Road, Taylor, Michigan. Expansion of existing caverns will require specific approval from the Supervisor of Wells.
3. If this well is completed in one or more Cambrian Geologic horizons below 3900 feet and Environmental Disposal Systems (EDS) begins hazardous waste disposal at its so-called Citrin Drive facility, permittee shall immediately begin a program of testing the produced brine for specific chemical components present in the EDS wastes or a marker compound approved by the department for injection with the EDS wastes. Testing shall be conducted at a minimum of every 15 days thereafter. Permittee shall in addition manage all produced brine as a hazardous waste as that term is understood in Part 111, Hazardous Waste Management, of NREPA until results of the required testing demonstrate to the department's satisfaction that it is not hazardous waste.
4. This permit does not authorize injection for disposal.
5. Permittee shall notify Lansing Office (517 241-1532) and Lansing District Supervisor (517-335-6523) at least 48 hours before moving a rig onto the well site and again before testing the Lockport Dolomite formation
6. Permittee shall report all losses or spills of produced brine in any quantity, from the brine supply line, at the well site or at the surface facility, to the District Supervisor (517-335-6523) during normal business hours or to the Pollution Emergency Alerting System (800-292-4706) on weekends, holidays, and between the hours of 5:00 p.m. and 8:00 a.m.

7. Notification shall be made promptly by telephone or in person and provide the following minimum information:
 - a. Name of person calling in loss or spill
 - b. Date and time of loss or spill
 - c. Date and time loss or spill was discovered
 - d. Date and time cleanup commenced
 - e. Location of loss or spill
 - f. Estimated volume of loss or spill
 - g. Cleanup or recovery measures taken
 - h. Cause of loss or spill
 - i. If loss or spill involved surface or groundwater
8. Written notification of a loss or spill shall be submitted to the appropriate GLMD field office within five calendar days from the time the loss or spill is discovered.
9. Permittee shall immediately cease brine production upon discovery of a leak in the flowline. Permittee shall submit a written report of the measures taken to repair the leak along with a written request to resume brine production. Brine production shall not resume until authorization is given by the supervisor or supervisor's authorized representative following repair of the leak.
10. Permittee shall prepare and submit to GLMD for approval a plan for flowline inspections or patrols and flowline leak detection. The plan shall be submitted by December 31, 2003. The plan shall be implemented immediately upon receiving approval from GLMD.
11. Permittee shall notify GLMD at least two weeks prior to beginning installation of the flowline from the wellhead to the surface facility.
12. Permittee shall submit an annual report to GLMD showing the amount of brine produced. The report shall be for a calendar year and shall be submitted by January 31 of the year following.
13. Permittee shall retain all records of brine produced for a period of three years following the year the brine was produced. The records shall be made available for inspection by the supervisor or supervisor's authorized representative at any time during regular business hours without prior notice.
14. Permittee shall dispose of all waste liquids generated during drilling/testing of the well in a well permitted under Part 625 of NREPA.
15. Permittee shall perform a mechanical integrity test of the production casing when the wellhead is removed or the seal between the wellhead and casing is broken, unless mechanical integrity has been demonstrated within the past twelve months. The test shall be performed by pressurizing the casing, with a retrievable bridge plug or packer set within 50 feet of the casing shoe. A successful test will show a pressure change of less than 3% in 30 minutes.

GENERAL PERMIT CONDITIONS

1. The permittee is required to give notice to public utilities in accordance with Act 53, PA 1974, M.C.L. 460.701-460.718.
2. This permit does not convey property rights in either real estate or material, neither does it authorize any injury to any public or personal property.
3. This permit does not preclude the necessity of obtaining other local, state, or federal permits which may apply to the drilling or operation of this well.
4. All trash and garbage shall be removed from the drill site at the completion of drilling; no garbage may be buried on site.

Office to be notified prior to preparing location and prior to moving in drilling equipment:

Lansing District Office, 517-335-6523
Mineral Well Specialist, 517-241-1532

Permit issued for the Supervisor of Mineral Wells by